

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) Dental radiology apparatus, characterized in that it comprises:

- an intraoral sensor comprising a detector that includes an active pixel array produced using biCMOS technology and converting received x-rays into at least one analog electrical output signal,
- an electronic module encapsulated in a case and which has at least one detector activation device, the module being linked to the sensor by a wire link for the transmission to said sensor of a detector activation signal generated in the module and for the transmission to the module of said at least one analog electrical output signal, the module having analog-digital conversion means of said at least one analog electrical output signal into at least one digital output signal,
- a remote processing and display unit of said at least one digital output signal which is linked to the electronic module by a wire link intended to ensure the transmission to the unit of said at least one digital output signal.

2. – 20. (Canceled)

21. (Original) Dental radiology apparatus, characterized in that it comprises an intraoral sensor intended to receive x-rays that have passed through at least one tooth, said sensor including:

- an x-ray to visible radiation converter,
- a detector comprising an active pixel array produced using biCMOS technology on a substrate made of semi-conductor material,
- a sequencer capable of generating several control signals to control the active pixel array, said sequencer being integrated on the same substrate as the array.

22. – 25. (Canceled)

26. (Original) Signal processing method in a dental radiology apparatus comprising an intraoral sensor that includes an active pixel array produced using biCMOS technology, characterized in that the method has the following steps:

- sampling of the data values held by the pixels of the array having been exposed to a radiation,
- generation of at least one sensor analog output signal based on the data values sampled on the pixels,
- conversion of said at least one analog output signal into one digital output signal,
- application of a correction to the analog output signal or to one of the analog output signals, to compensate in the digital output signal for any drifts due to the variations of the dark current in the array.

27. – 41. (Canceled)

42. (Original) Dental radiology apparatus, characterized in that it comprises an intraoral sensor including:

- a detector comprising an active pixel array produced using biCMOS technology and converting x-rays received by the array into at least one analog output signal,
- the apparatus comprising:
- an analog-digital converter for converting said at least one analog output signal into one digital output signal,
 - a signal corrector that is suited to applying a correction to the analog output signal or to one of the analog output signals, to compensate in the digital output signal for any drifts due to the variations of the dark current in the array.

43. – 59. (Canceled)

60. (Original) Dental radiology apparatus, characterized in that it comprises an intraoral sensor intended to receive x-rays that have passed through at least one tooth, said sensor including:

- an x-ray to visible radiation converter,
- a detector comprising an active pixel array produced using biCMOS technology and converting the visible radiation thus converted into at least one analog electrical signal,
- a generator of a sampling signal synchronized with said at least one analog electrical signal and which is intended for the later conversion of said at least one analog electrical signal into a digital signal.

61. – 66. (Canceled)

67. (Original) Signal processing method in a dental radiology apparatus comprising an intraoral sensor intended to receive x-rays that have passed through at least one tooth, characterized in that it includes the following steps performed in the sensor:

- reception of x-rays having passed through at least one tooth,
- conversion of the received x-rays into visible radiation,
- transformation of the visible radiation thus converted into at least one analog electrical signal by an active pixel array produced using biCMOS technology,
- generation of a sampling signal synchronized with said at least one analog electrical signal and which is intended for the later conversion of said at least one analog electrical signal into a digital signal.

68. – 73. (Canceled)

74. (Original) Method of signal processing in a dental radiology apparatus comprising an intraoral sensor that includes a detector including an active pixel array produced using biCMOS technology, the pixels being arranged in rows and columns, characterized in that it comprises the following steps:

- selection of each row of the array,
- for each row selected, sampling of the data values held by each pixel having been exposed to radiation,
- generation of a read signal from the sampled data values for the array's pixels,
- application at the detector's input of an input reference signal (black-in),
- production of an output signal based on the array's read signal and an output reference signal (black-ref) representative of the detector's intrinsic electronic drifts and which is obtained at the detector output based on the input reference signal applied at said detector's input.

75. – 86. (Canceled)

87. (Original) Dental radiology apparatus comprising an intraoral sensor that includes a detector including an active pixel array produced using biCMOS technology, the pixels being arranged in rows and columns, characterized in that it comprises:

- means for selecting each row of the array,
- means for sampling the data values held by each pixel having been exposed to radiation, for each row selected,
- means for generating a read signal from the sampled data values for the array's pixels,
- means for applying at the detector's input an input reference signal,
- means for producing an output signal from the array's read signal and an output reference signal (black-ref) representative of the detector's intrinsic electronic drifts and which is obtained at the detector output based on the input reference signal applied at said detector's input.

88. – 100. (Canceled)

101. (Original) Method of signal processing in a dental radiology apparatus comprising an intraoral sensor that includes an active pixel array produced using biCMOS technology, the pixels being arranged in rows and columns, the sensor delivering an analog output signal produced from the data values held by the array's pixels exposed to radiation, characterized in that, the pixels of at least one array column being optically inactive, the method includes the following steps:

- conversion of the analog output signal into a digital output signal,
- reading in the digital output signal of one or more data values coming from each optically inactive pixel of an array row,
- reading in the digital output signal of one or more data values coming from each optically inactive pixel of at least one adjacent row, the relevant pixel(s) of each of the two rows being equal in number and arranged in the same column(s),
- comparison of the data value(s) read respectively for the inactive pixel(s) of a row with the data value(s) read respectively for the inactive pixel(s) of said at least one adjacent row,
- according to the result of the comparison, decision-making as to any modification in the output signal of the data values of all the pixels of one of the rows used for the comparison.

102. – 110. (Canceled)

111. (Original) Dental radiology apparatus comprising an intraoral sensor that includes an active pixel array produced using biCMOS technology, the pixels being arranged in rows and columns, the sensor delivering an analog output signal produced from the data values held by the array's pixels exposed to radiation, characterized in that, the pixels of at least one array column being optically inactive, the apparatus includes:

- means for converting the analog output signal into a digital output signal,
- means for reading, in the digital output signal, one or more data values coming from each optically inactive pixel of an array row,

- means for reading, in the digital output signal, one or more data values coming from each optically inactive pixel of at least one adjacent row, the relevant pixel(s) of each of the two rows being equal in number and arranged in the same column(s),

- a comparator supplying a comparison of the data value(s) read respectively for the inactive pixel(s) of a row with the data value(s) read respectively for the inactive pixel(s) of said at least one adjacent row,

- decision-making means capable of providing a decision as to any modification in the output signal of the data values of all the pixels of one of the rows used for the comparison.

112. – 118. (Canceled)